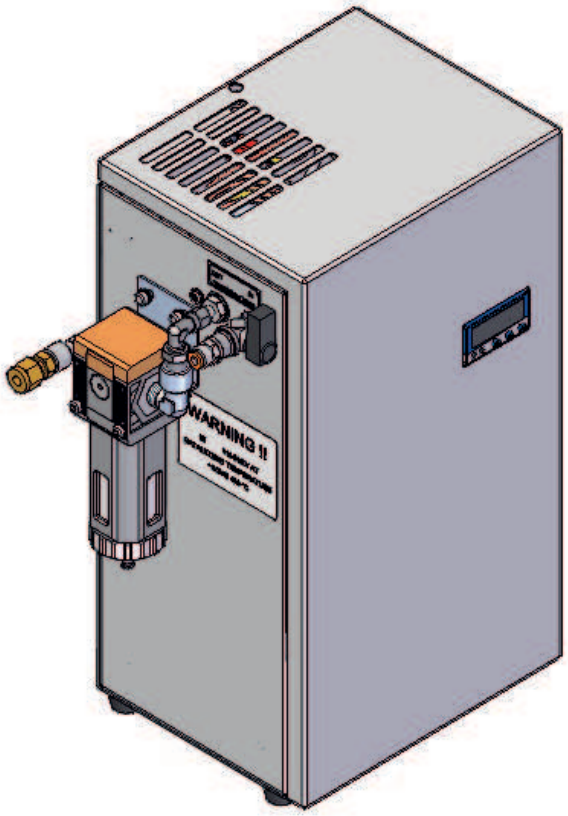
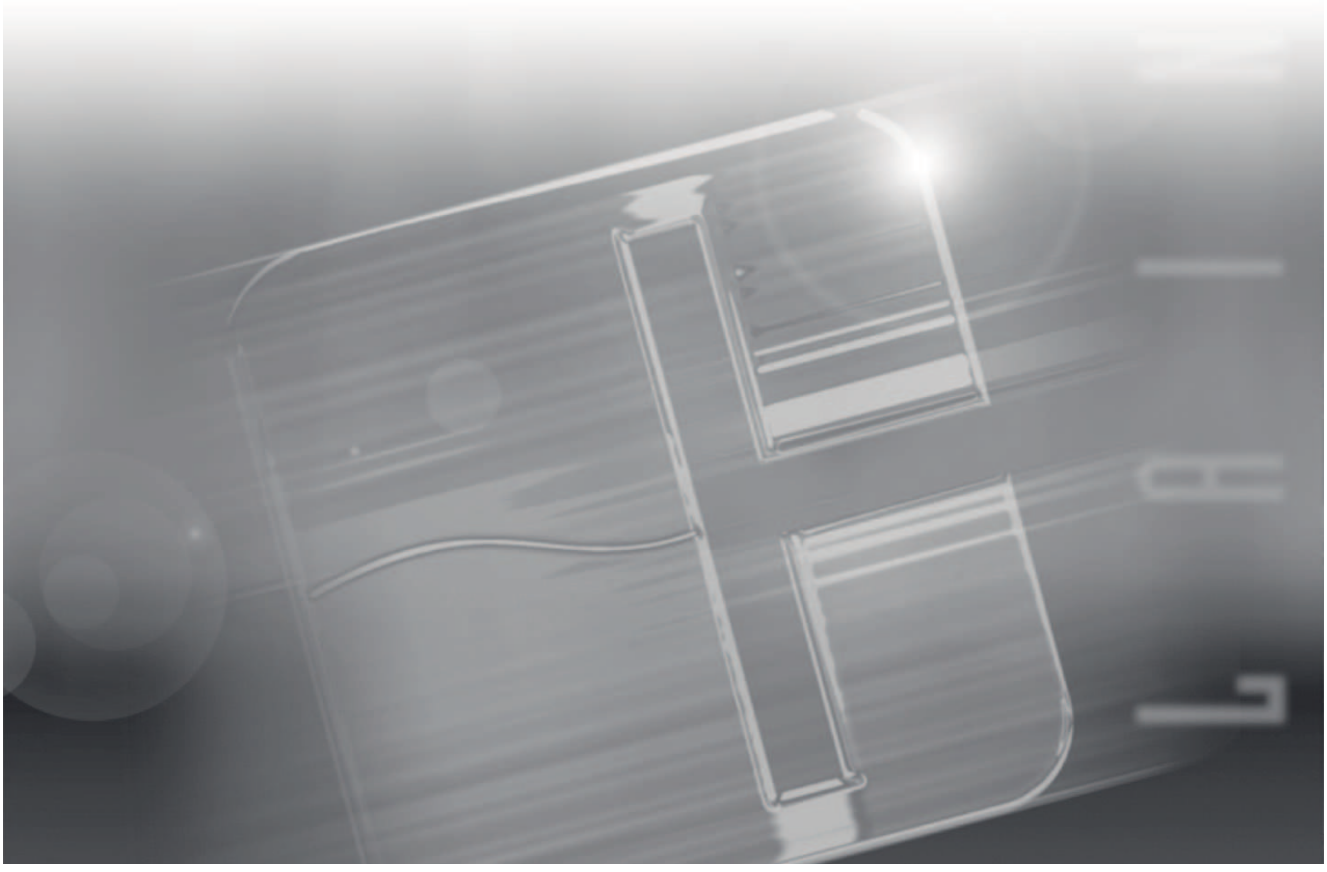
CLAIND

User’s manual

Air purifier

ZeroAir





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1. Introduction

This document is intended for Claind ZeroAir air purifier users, and provides information on installation, use and maintenance.

The following ZeroAir series models are available:

model	code
ZeroAir 5 115Vac	422.05.0120
ZeroAir 5 230Vac	422.05.0130
ZeroAir 20 115Vac	422.05.0220
ZeroAir 20 230Vac	422.05.0230

ZeroAir purifiers are intended to reduce the hydrocarbon content of a gas (typically compressed air) used for laboratory instrumentation (for example, in gas chromatography).

With regard to the operations of installation and maintenance, it is assumed that the user is familiar with pneumatic components and in particular is aware of all safety aspects linked to the use of compressed air.

The margin of the text contains the following symbols, indicating:

compulsory safety standards to be observed

electrical hazard

recommendations and important information

It is strongly recommended to carefully read all safety warnings (*par. 2.1.*) before carrying out any operation on the purifier.

2. Safety

The unit must be installed and used in observance of the instructions in this booklet. Furthermore, use of the generator must be limited to that described in Chapter 1 Introduction*. Failure to observe the foregoing will render the guarantee null and void and release CLAIND from all liability for direct or indirect damage or physical injury.*

The user is responsible for asking local authorities if there are local safety regulations that are stricter than what is described in this manual.

2.1. Warnings

Place the purifier FAR FROM SOURCES OF HEAT

Place the purifier in an environment PROTECTED AGAINST RAIN AND WIND

The purifier must always operate with its protective housing installed: burn hazard

Never remove the housing when the purifier is hooked up to the power supply: fatal electrocution hazard

In the event of faults which cannot be resolved according to the procedures in the TROUBLESHOOTING chapter, contact Technical Service. Repairs and inspections must be carried out exclusively by ***QUALIFIED PERSONNEL***

2.2. Safety devices

MAXIMUM TEMPERATURE: The purifier is fitted with an internal catalyser, the temperature of which is constantly maintained at 420°C. To guarantee safety, a completely independent safety device is fitted which shuts off the power to the heating element when the temperature exceeds 480°C.

2.3. Technical assistance

The CLAIND technical assistance can be contacted as follows:
Phone ++39 0344 56603
Fax ++39 0344 56627
Email: service@claind.it
Website: filling the form on the website www.claind.it at the "Service" section

3. Description of the purifier

3.1. Equipment supplied

Unless otherwise agreed, the supply of a ZeroAir purifier includes:

- n°1 purifier type ZeroAir;
- n°1 CD user's manual;
- n°1 external filter;
- n°1 cable for the electrical mains;
- n°1 extension;
- n°1 ball valve;
- n°1 male fitting for plastic tube external diameter=6mm;
- n°1 brass male fitting for 1/4 tube if u bought a ZeroAir20;
- n°1 brass male fitting for 1/8 tube if u bought a ZeroAir5.

3.2. Technical specifications

3.2.1. General specifications

Dimensions		
Width	28 cm	11 in
Depth	16 cm	6.3 in
Height	35 cm	13.8 in
Weight		
Zero Air 5	5 kg	11 lb
Zero Air 20	7 kg	16 lb
Maximum flow rate		
Zero Air 5	5 Nl/min	5 slpm
Zero Air 20	20 Nl/min	20 slpm
Pressure on input	0 - 10 bar	0 - 145 psi
Operating temperature	5 - 40°C	41 - 104°F
Protection rating	IP20	IP20

3.2.2. Electrical

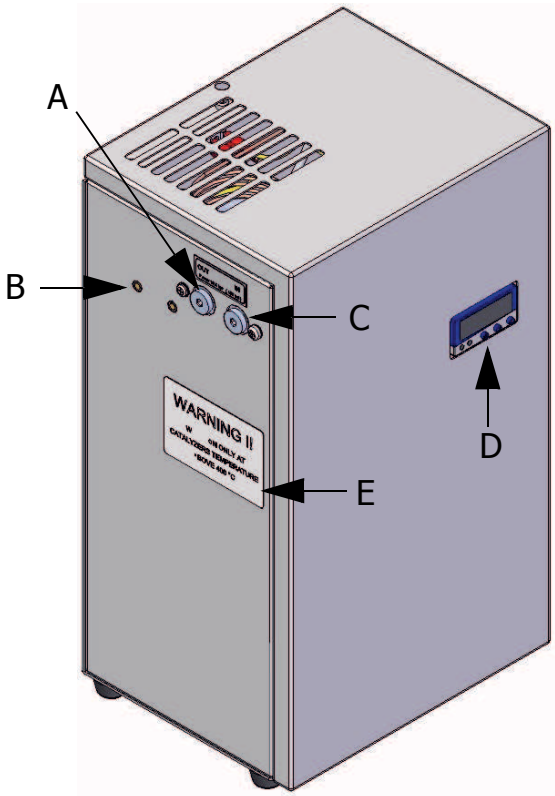
Power supply voltage	depending on model: 230 VAC (±10%); 1ph; 50-60 Hz or 115 VAC (±10%); 1ph; 50-60 Hz
Max. absorption	
Zero Air 5	180 W
Zero Air 20	450 W

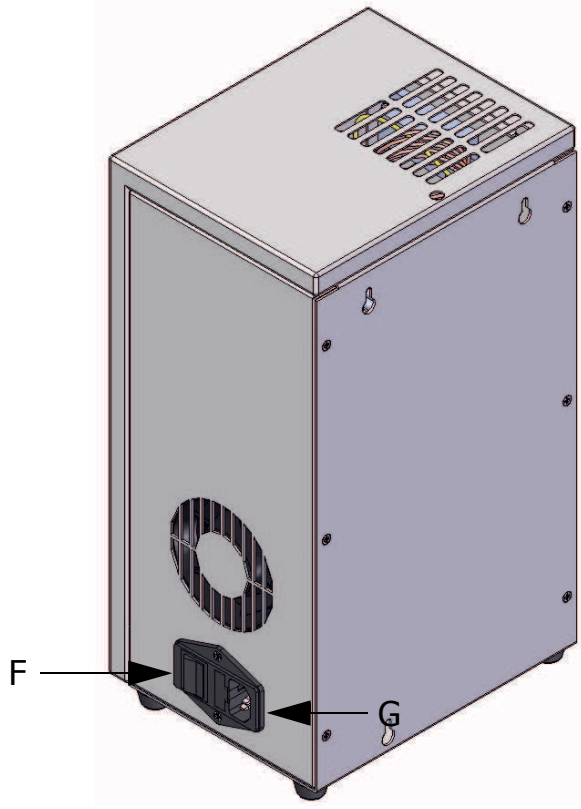
3.2.3. Gas

The degree of purity of the gas on output varies according to the type of use and application. The data regarding the present model are specified on the relative product datasheet.

3.3. Purifier components

A. OUTLET : compressed air delivery coupling (G 1/8 female);
B. RIVETS: for blocked the filter;
C. INLET : compressed air intake coupling (G 1/8 female);
D. KEYPAD AND DISPLAY for setting and displaying the operating temperature;
E. LABEL: states the model, serial number (SN) and electrical specifications;
F. "POWER" KEY: ON pushbutton
G. CONNECTOR for electric power supply cable; includes housing for master FUSE;





4. Installation

4.1. Installation area requirements

4.1.1. Humidity and dust

To avoid risks of damage to its electronic components, install the purifier in an environment with limited relative humidity and low concentrations of dust.
Install it out of the way of rain and wind.

4.1.2. Temperature

The ambient temperature in the purifier installation area must be between 5°C and 40°C.
Install away from heat sources. Avoid direct exposure to sunlight.

4.2. Positioning the purifier

4.2.1. Packaging removal

The purifier is delivered in cardboard packaging. Remove all packaging, taking care not to damage the purifier's panels.
If possible, store the packaging to ensure adequate protection when moved in the future.

4.2.2. Positioning

Leave at least 30cm clearance in front of the front panel for cooling air intake.

The purifier could be positioned on a bench or on a wall.

⚠ **Do not place anything on the top grille as this blocks the cooling air outlet**

4.3. Pneumatic connections

4.3.1. Air inlet

The air inlet distribution line must be made using pipelines suited to the operating pressure and the pipeline diameter must be sized according to the acceptable pressure drop values.

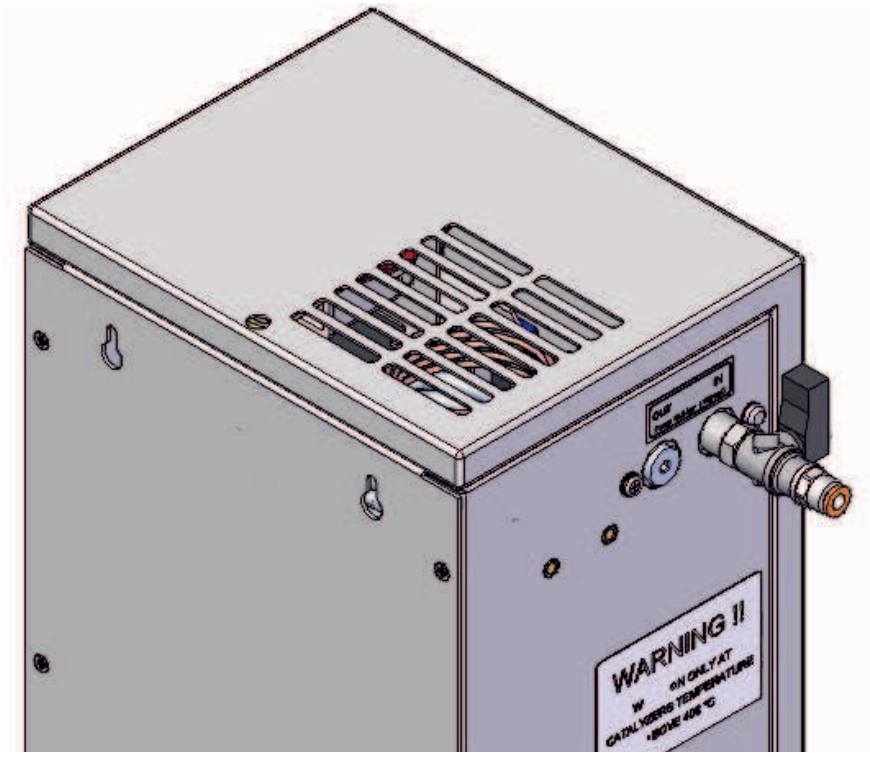
⚠ **The max acceptable inlet pressure is 10.5 bar (152 psi)**

ⓘ *The air inlet to the purifier must have the following minimum quality requirements:*
Dew point: < 3° C
Maximum oil concentration:< 0.01 mg/m3
Maximum particle concentration (diameter 0.01 µm)< 0.1 mg/m3

ⓘ *For best purifier performance, keep the gas supply flow at the value specified in* par. 3.2.1.

CONNECTION

- locate the air coupling, marked "INLET" at the left side of the purifier
- connect the extension, the ballvalve and the male fitting for tube external diameter=6mm (see the picture below)



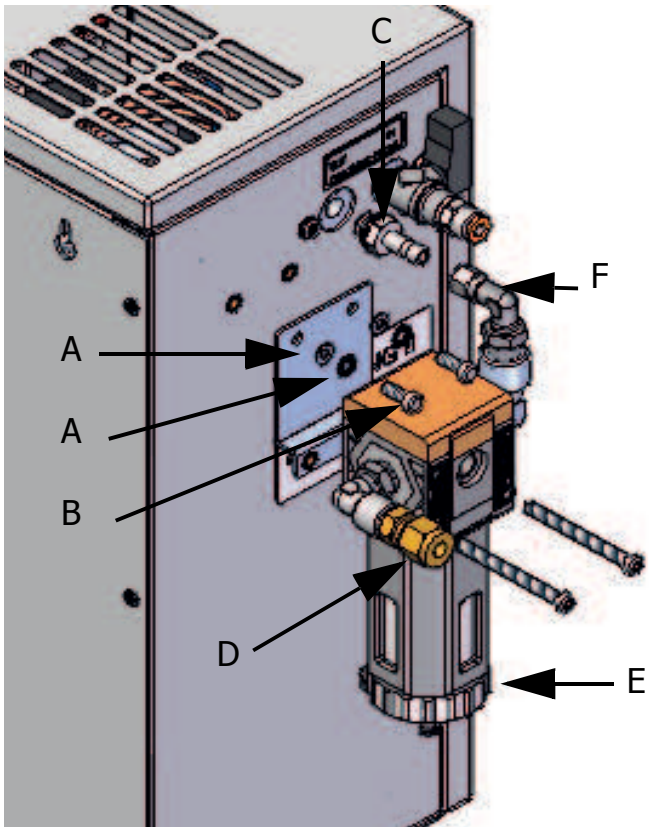
- close the ballvalve
- make the pneumatic connection between the purifier and the line

4.3.2. Air outlet

The air outlet distribution line must be made using pipelines suited to the operating pressure and the pipeline diameter must be sized according to the acceptable pressure drop values for the utility.

FILTER CONNECTION

- locate the air coupling, marked "OUTLET" at the left side of the purifier
- connect the fitting (C) in the outlet of the purifier
- connect the filter (E) with the fitting (C) without tighten the fitting (F)
- assembly the external filter (E) on the wall of ZeroAir with screws (B) and washers (A) in dotation
- tighten the fitting (F)
- Connect the fitting (D) with the outlet of the filter
- make the pneumatic connection between the purifier (OUTLET of filter, D) and the line



4.3.3. Electric power supply

For reasons of safety, the following instructions must be strictly observed.
The electrical installation must comply with current standards, in particular regarding the protection line.

Recommendations for correct installation:

- do not use extension leads, adaptors or multiple sockets;
- always connect the protection wire/ ground wire;
- the mains socket and switch must be located in an easily accessible position.

CONNECTION

- Locate the power cable connector at the right side of the purifier.
- Before connecting the cable, ensure that the POWER switch is set to OFF.
- Connect the power cable supplied with the purifier. If the provided power cable does not match the local plug configuration, the proper power cable with the appropriate plug configuration must be obtained prior to attempting to apply power to the unit.

4.4. Packaging disposal

It is recommended to store the original packaging to ensure adequate protection for the purifier when moved in the future.

5. Use

5.1. Switching on the purifier

To turn on the purifier, press the POWER key on its right side panel.
The air purification catalyser starts to heat until it reaches the operating temperature (420°C). The time required to reach this operating condition is approx. 45 minutes.

Open the ballvalve only if the temperature has reached 400° C at least.
Don't let the gas flow in the purifier if it's not at the correct temperature.

Be aware that if the gas flows into the purifier with an uncorrect temperature, can damage it: in this case Claind is released from any liability.

5.2. Air purification

At the end of the heating phase (see previous section), the purifier maintains the operating temperature at 420°C ± 10°C.
At this point purified air can be delivered to the utility.

5.3. Purifier shutdown

The purifier can be shut down at any time with its POWER key.

5.4. Parameter display

5.4.1. Catalyser temperature display

The current temperature in degrees Celsius is always displayed.

5.5. Parameter setting

All controller parameters are factory set. The are no user adjustable parameters.

6. Maintenance

The purifier is equipped with a table of maintenance component, for this component a life time is preset during the testing phase, in order to enable the user to perform programmed maintenance.
This time is decreased till its expiry during normal operation. When the time is over the generator needs maintenance intervention.

6.1. Maintenance kit

We recommend to follow the suggested maintenance schedule in order to keep the purifier efficient and to reduce failure risks. .

Type and quantity maintenance kit selection			
Part number	Description	Maintenance interval	
		0 - 4 years	0 - 8 years
422.93.0031	Maintenance kit every 4000 h	1	2

6.2. Maintenance schedule

If a correct maintenance schedule is not followed, the performance of the purifier may no longer be ensured and it may lead to permanent damage to the purifier.

The maintenance operations must be carried out exclusively by QUALIFIED PERSON.

Lack of maintenance will void the warranty.

The lifetime of the catalyser depends on the conditions of use and in particular the quality of air on inlet.

The following chart indicates the frequency of the recommended maintenance operation, express in "years of life" of the purifier, since it was bought

Components use versus maintenance plan					
Part number	Description	2 years	4 years	6 years	8 years
R063399	Filter cartridge Syntesi 5 micron	1	1	1	1
Maintenance kit to be used ->		422.93.0031		422.93.0031	

7. Troubleshooting

This model of purifier does not have alarms.
In case of malfunction:

- make sure the gas flow through the purifier does not exceed the maximum value given in its technical specifications *par. 3.2.1. General specifications*
- check the displayed operating temperature

if the problem persists, contact Technical Assistance with the following information:
- serial number and model of purifier
- description of malfunction

8. Guarantee

The conditions of guarantee are as follows:
For duration of the guarantee period , see Claind's General Sales Conditions.
The guarantee includes the cost of materials and labour.
The guarantee is EX WORKS CLAIND and therefore does not include any callout costs for technicians to visit the client's premises.
The guarantee covers exclusively COSTS DERIVING FROM MANUFACTURING DEFECTS and does not include:

1. Use of non original consumable or spare sparts;
2. Damage caused by negligence or improper use of the equipment;
3. Damage caused by inadequate electric power supply;
4. Damage caused by natural catastrophes (e.g. fire);
5. Damage caused by transport;
6. Damage caused by compressed air with inadequate properties.

The guarantee is rendered null and void in the event of intervention by unauthorised personnel on the equipment.

9. Declaration of conformity

MO10MCC Emiss. 26/10/2012

CE

DICHIARAZIONE DI CONFORMITA'

(DECLARATION OF CONFORMITY)

I

Con la presente dichiariamo, sotto la nostra esclusiva responsabilità, che l'apparecchiatura tipo:

(By this letter we declare, under our responsibility, that the following apparatus:)

CODICE (Part number)	VERSIONE (Version)	DESCRIZIONE (Descritpion)
422.05.0120	2	ZeroAir 5 115V~ 50/60Hz
422.05.0130	2	ZeroAir 5 230V~ 50/60Hz
422.05.0220	2	ZeroAir 20 115V~ 50/60Hz
422.05.0230	2	ZeroAir 20 230V~ 50/60Hz

alla quale questa dichiarazione si riferisce, è conforme con quanto stabilito dalle seguenti disposizioni, in particolare:

(to which this declaration regards, is fully in conformity with the following rules:)

2014/30 UE	Direttiva compatibilità elettromagnetica (Electromagnetic compatibility directive)
2014/68 UE	PED Direttiva europea attrezzatura in pressione esonerato per l'applicazione dell'articolo 4, paragrafo 3. (Pressure equipment directive exempt according to the art.4, paragraph 3) TS = 60°C PS = 10,2 bar V = 0,8 dm^3
2014/35 UE	Direttiva bassa tensione (Low voltage directive)

Tremezzina, 20/04/2016

Firma del legale rappresentante
(Signature of legal representative)

Giovanni Cogotzi

CLAIND
generatori di gas

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10. Notes

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